



Patent

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Kazuo FUJITA

Group Art Unit: 1752

Application No. 10/657,290

Examiner: SCHILLING, RICHARD L

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For: PRESENSITIZED PLATE FOR
PREPARING LITHOGRAPHIC
PRINTING PLATE

DECLARATION UNDER 37 CFR 1.132

Commissioner for Patents

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Sir:

1. I, Kazuo FUJITA, declare and state as follows:
2. I graduated from Master's course of Osaka University, School of Engineering Science, Department of Chemical Engineering in March of 1991.
3. I was employed by Fuji Photo Film Co., Ltd., in April of 1991 and have been employed at Laboratory of said Company and engaged in research relating to photopolymer from April of 1991 to June of 2003.
4. I have conducted the following experiments to demonstrate the advantage of the present invention of the above-identified application.

In order to show the advantages of the present invention over the inventions in the cited documents, Nishioka et al ('713) and Adachi et al ('922), the following comparative example was conducted.

(1) Preparation and evaluation of presensitized plate

Light sensitive materials R4 and R5, were prepared in the same manner as described in the present specification from page 79, line 5 to 82, line 1.

The presensitized plates thus prepared were evaluated in the same manner as described in the present specification from page 82, line 2 to 85, last line.

The results are shown below. The data of the light sensitive material 1 described in the present specification is also shown below for comparison.

[Table 1']

Compound	repeating unit	weight ratio of each unit	Mw
(a)	$\begin{array}{c} \text{-(CH}_2\text{-CH)-} \\ \\ \text{COO(CH}_2\text{)}_2\text{NSO}_2\text{(CF}_2\text{)}_6\text{F} \\ \\ \text{CH}_2\text{CH}_2\text{CH}_3 \end{array} \quad \begin{array}{c} \text{-(CH}_2\text{-CH)-} \\ \\ \text{COO(C}_3\text{H}_5\text{O)}_6\text{H} \end{array}$	60 : 40	58000
(i) (Comp)	$\begin{array}{c} \text{-(CH}_2\text{-CH)-} \\ \\ \text{COOCH}_2\text{CH}_2\text{NHSO}_2\text{(CF}_2\text{)}_6\text{F} \end{array} \quad \begin{array}{c} \text{-(CH}_2\text{-CH)-} \\ \\ \text{COO(C}_3\text{H}_5\text{O)}_6\text{H} \end{array}$	40 : 60	42000
(j) (Comp)	$\begin{array}{c} \text{-(CH}_2\text{-CH)-} \\ \\ \text{COOCH}_2\text{CH}_2\text{NSO}_2\text{(CF}_2\text{)}_6\text{F} \\ \\ \text{C}_6\text{H}_5 \end{array} \quad \begin{array}{c} \text{-(CH}_2\text{-CH)-} \\ \\ \text{COO(C}_3\text{H}_5\text{O)}_6\text{H} \end{array}$	40 : 60	46000

[Table 2']

	Fluorine polymer	Amt. Added (solid content) (g)
Light Sensitive Material 1 (Ex.)	(a)	0.015
Light Sensitive Material R4 (Comp. Ex.)	(i)	0.02
Light Sensitive Material R5 (Comp. Ex.)	(j)	0.02

[Table 3']

Ex. No.	Light-Sensitive Material	Surface Condition	Number of Printed Matters ¹⁾	Printing Durability
1	1	Not more than 5	12	180,000
4*	R4	Not less than 10	20	120,000
5*	R5	Not less than 10	16	140,000

*Comparative example

[Table 4']

Ex. No.	Light-Sensitive Material No.	Sensitivity	Gradation	Development Latitude
7	1	6.0	5.25	5
6*	R4	5.75	6.00	7
7*	R5	5.75	6.00	7

*: Comparative Example

As seen from Table 3', the light-sensitive layer of the presensitized plate for lithographic printing plates according to the present invention is excellent in uniformity as well as ink-receptivity and printing durability. In contrast, the light-sensitive layers comprising comparative polymers (i) and (j) show lower uniformity, ink-receptivity and printing durability than those of the present invention.

In addition, as seen from Table 4', the contrast (gradation) of the printing plate of the present invention was increased without any reduction of the sensitivity and development latitude. In contrast, the printing plates using comparative polymers (i) and (j) show deteriorated contrast, sensitivity and development latitude.

(2) Preparation and evaluation of coating liquid

Light sensitive layers containing the polymers (i) and (j) described above were prepared in the same manner as described in the present specification from page 86, line 1 to page 87, line 5.

Thus prepared layers were evaluated as described in the present specification from page 87, lines 6 to 15. The following table shows the results of the evaluation. The data of the layer comprising fluorine atom-containing polymer (a) described in Table 5 in the present specification is also shown below for comparison.

[Table 5]

Ex. No.	Fluorine Atom-Containing Polymer	Uniformity of Light-Sensitive Layer ¹⁾	No. of Printed Matters ²⁾	Printing Durability (No. of Sheets)
13	(a)	A	23	180,000
9*	(i)	A	30	130,000
10*	(j)	A	28	140,000

*: Comparative Example

1) This was evaluated on the basis of the following criteria: A: Uniform and even; B: Slightly and lightly uneven; C: There was observed unevenness due to, for instance, the drying air-blow; and D: There was observed considerable unevenness due to, for instance, the drying air-blow.

2) The number of printed matters required till the printing plate completely receives ink.

Table 5' shows that, although the uniformity of light sensitive layer of Example 13 and Comparative Examples 9 and 10 are the same level, the ink-receptivity and printing durability of the printing plate of the present invention is superior to that of the printing plates using the comparative copolymers (i) and (j).

Thus, the above experimental data clearly support the superiority of the present invention over the inventions in Nishioka et al and Adachi et al.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful, false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful, false statements may jeopardize the validity of the application or any patent issuing thereon.

FURTHER, DECLARANT SAYETH NOT

Date: 2005. 6. 27

Kazuo Fujita

Kazuo FUJITA